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An Ant New to the Fauna of the Hawaiian Islands

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Dr. F. X. Williams recently sent me several specimens of a singular, hypogaeic ant which he found during April, 1932, "off the road to Puna, south of Olaa, Hawaii, under moss, etc." It represents a variety of *Strumigenys* (*Cephaloxys*) *membranifera* Emery, which was described in 1869 from a single worker taken at Portici, near Naples by the late Professor Emery's brother (Fig. 1a-c). In 1890 Emery described a second form as subsp. *simillima,* also from a single worker, taken on the island of St. Thomas in the West Indies, and four years later Forel described a var. *santschii* from Kairouan, Tunis. Recently (1931) Dr. Marion R. Smith recorded *simillima* from various localities in the state of Mississippi with the remark: "Undoubtedly this subspecies occurs throughout the Gulf States certainly as far west as the Mississippi River."

Many years ago Dr. F. Silvestri sent me five workers of the typical *membranifera* which he had taken in the type locality, near his laboratory at Portici. I have not seen the Tunisian var. *santschii.* Forel described it as differing in its more opaque ferruginous color (though Santschi describes it as "pale yellow"), in having the head more strongly and more irregularly sculptured, with more sharply rectangular anterior corners and the pronotum as having more accentuated marginate borders. I have not seen topotypic specimens of *simillima.* According to Emery, its head is somewhat more elongate and more narrowed anteriorly than that of the typical *membranifera,* with the median post-clypeal impression, or frontal area larger and more pronounced, the antennal funiculi longer and with the terminal joint scarcely longer than the preceding joints together. These differences are shown in his figures (here reproduced as Figure 1b and d).

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Compared with the typical *membranifera,* the worker of the Mississippi form, which Dr. Smith and I referred to *simillima,* exhibits the following differences in addition to those mentioned by Emery: the pronotum is distinctly broader, with more pronounced anterior and lateral margination and smoother and more

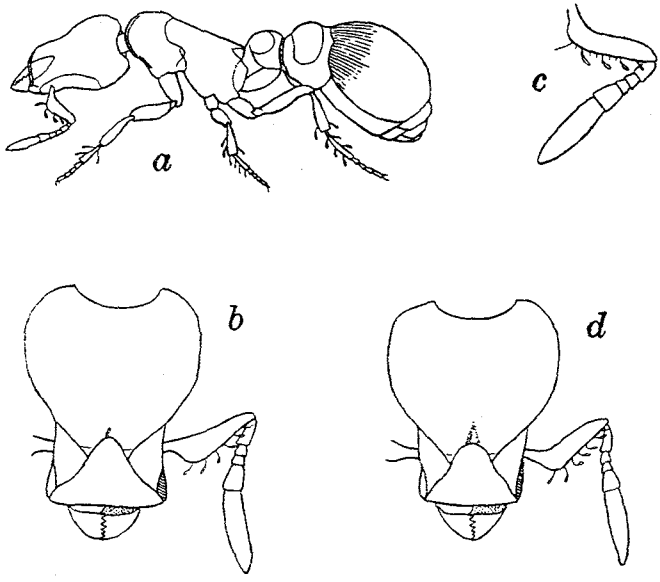

Figure 1. *Strumigenys (Cephaloxys) membranifera* Emery. *a,* worker; *b,* head; *c,* antenna; *d,* dorsal view of head of the subspecies *simillima* Emery. (After Emery)

shining surface, the body is of a distinctly deeper ferruginous color, the clavate hairs of the vertex, antennal scapes, legs, venter and tip of gaster and the spongiform appendages of the petiole and postpetiole are more sordid and not pure white as in the typical Italian form. Since these characters are not mentioned by Emery the Mississippi form may be regarded, at least provisionally, as a distinct variety, for which I suggest the name *marioni* var. nov.

The worker specimens taken by Dr. Williams in Hawaii and which I shall call var. *williamsi* var. nov., closely resemble those

of *marioni* in color and in the shape of the head, but the pronotum as well as the remainder of the thorax seem to be even smoother and more shining, and the umbilicate punctures of the head somewhat more discrete and more regular. The impression representing the frontal area, however, is small and indistinct as in the typical *membranifera.* The hairs and spongiform appendanges are distinctly yellow.

A single deälated female differs from the worker in having the head broader, with much more pronounced, sharply rectangular anterior corners. Thorax short, highest through the scutellum; humeri of pronotum, which is not marginate as in the worker, forming a pair of rounded protuberances; mesonotum small, convex, longer than broad, narrowly rounded anteriorly; base of epinotum shorter than the declivity and forming nearly a right angle with it in profile. Petiolar and postpetiolar nodes broader than in the worker, the former transversely subrectangular, nearly twice as broad as long. Sculpture as in the worker but the thorax subopaque; pronotum finely rugulose; mesonotum and scutellum covered with dense umbilicate punctures like those on the head; mesonotum with a few clavate hairs on its lateral borders. Ocellar area infuscated. In other respects very similar to the worker. Length about 1.5 mm.

The distinguishing characters of the various forms of *membranifera* are so slight that their precise taxonomic rank cannot be determined without additional material. Emery confesses that he would not have regarded *simillima* as a subspecies if the type had been taken in Europe. I am inclined to regard it as a mere variety like *santschii,* but if the geographical distribution instead of the slight and elusive characters of the four forms is stressed, they might all be regarded as incipient subspecies.

Like the other small species of Dacetonine ants belonging to Acanthognatus Mayr, Strumigenys F. Smith, Cephaloxys F. Smith, Epitritus Emery, Glamyromyrmex Wheeler, Codiomyrmex Wheeler, Codioxenus Santschi, Pentastruma Forel, etc., *membranifera* is a member of Silvestri's "microgenton," the curious fauna of minute, poorly pigmented, blind or myopic organisms which inhabit the soil and are rarely taken at the surface except after

abundant rains. Hence the precise limits of distribution of any of the species of the genera and subgenera above mentioned cannot be defined at the present time. The whole cosmopolitan tribe Dacetonii is evidently both very ancient and very highly specialized. Now that the Berlese and Silvestri funnels are being more generally used by collecting entomologists, our knowledge of these very interesting ants should increase rapidly.